

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ROBERT QUINN, DANIEL V. LACIAK,  
and GUIDO P. PEZ

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Appeal No. 1998-1175  
Application No. 08/374,462

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ON BRIEF

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Before KIMLIN, GARRIS, and DELMENDO, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1-23 which are all of the claims in the application.

The subject matter on appeal relates to a process for separating acid gas from a gaseous mixture which comprises

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contacting the mixture with a multilayer composite membrane comprising a first polymeric support layer and an active separating layer comprising a blend of a water soluble polymer and one-half equivalent or more of an acid gas reactive salt wherein the membrane separates the acid gas from the gaseous mixture by selectively permeating the acid gas. Further details of this appealed subject matter are set forth in representative independent claim 1 which reads as follows:

1. A process for separating acid gas from a gaseous mixture containing acid gas and at least one non-acid gas, the process comprising contacting the gaseous mixture with a multilayer composite membrane comprising a first polymeric support layer and an active separating layer comprising a blend of a water soluble polymer and one-half equivalent or more of an acid gas reactive salt based upon the repeating unit of the water soluble polymer, the acid gas reactive salt which is represented by the formula  $A_xB_y \cdot nH_2O$  wherein A is a monovalent cation and B is a monovalent anion wherein x and y are integers such that the salt remains charge neutral, n represents the number of moles of bound water per mole of salt, and the pKa of the conjugate acid of the monovalent anion is greater than 3, wherein the multilayer composite membrane separates the acid gas from the gaseous mixture by selectively permeating the acid gas.

The references relied upon by the examiner as evidence of obviousness are:

Quinn et al. (Quinn '114)	4,780,114	Oct. 25, 1988
Van Wijk et al. (Van Wijk)	4,913,818	Apr. 3, 1990
Quinn et al. (Quinn '456)	4,973,456	Nov. 27, 1990
Quinn et al. (Quinn '298)	5,336,298	Aug. 9, 1994

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Jansen et al. (Jansen), "Dehydration of Alcohols by Vapor Permeation," from "Proceedings of International Conference on Pervaporation Processes Chem. Ind." 1988.

Claims 1, 2, 6-18 and 21-23 stand rejected under 35  
U.S.C.

§ 103 as being unpatentable over Quinn '114 in view of Van Wijk, Jansen and Quinn '456, and claims 3-5, 19 and 20 stand correspondingly rejected over these references and further in view of Quinn '298.

These rejections cannot be sustained.

As acknowledged by the examiner, the here claimed process distinguishes over the process of Quinn '114 in that patentee does not teach using a water soluble polymer in combination with a salt as his active separating layer. That is, while the active separating layer of Quinn '114 includes a salt of the type here claimed in combination with a polymer, this polymer is not a water soluble polymer as required by the claims on appeal.

To account for this deficiency, the examiner relies upon the teachings of Jansen and Van Wijk to support his conclusion that these teachings would have suggested using a water soluble polymer as the polymer in the active separating layer

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of Quinn '114. In particular, Jansen discloses using a water soluble polymer in combination with a salt of the type here claimed (i.e., CsF). It is significant, however, that the teachings of Jansen and Van Wijk are directed to the separation of water vapor rather than an acid gas from a gaseous or vaporous mixture.

It is well settled that obviousness under section 103 requires a suggestion for the prior art modification in question as well as a reasonable expectation that the modification would be successful. In re O'Farrell, 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). From our perspective, the water vapor separation teachings of Jansen and Van Wijk would not have suggested the examiner's proposed modification of the Quinn '114 process for separating acid gas and similarly would not have provided a reasonable expectation for success with respect to this modification. These circumstances lead us to believe that the examiner has improperly used the appealed claims as a template for combining the references applied thereagainst and thus has fallen victim to the insidious effect of hindsight syndrome wherein that which only the inventor has taught is used

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against its teacher. W.L. Gore & Assocs. v. Garlock, Inc.,  
721 F.2d 1540, 1553, 220 USPQ 303, 312-313 (Fed. Cir. 1983),  
cert. denied, 469 U.S. 851 (1984).

For the above stated reasons, we cannot sustain the  
examiner's section 103 rejection of claims 1, 2, 6-18 and 21-  
23 as being unpatentable over Quinn '114 in view of Van Wijk,  
Jansen and Quinn '456. The corresponding rejection of claims  
3-5, 19 and 20 over these references and further in view of  
Quinn '298 also cannot be sustained particularly since this  
last mentioned reference does not supply the deficiencies  
discussed previously.

The decision of the examiner is reversed.

REVERSED

	Edward C. Kimlin	)	
	Administrative Patent Judge	)	
		)	
		)	
		)	
	Bradley R. Garris	)	BOARD OF
PATENT		)	
	Administrative Patent Judge	)	APPEALS AND
		)	INTERFERENCES
		)	
		)	
	Romulo H. Delmendo	)	
	Administrative Patent Judge	)	

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BRG:tdl

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